

IN THE CLAIMS

Please amend Claim 1 as follows:

1. (Currently Amended) A translation system for translating a source device program for a source device
5 into a translation language program for a target device, the system comprising:
 a front end for identifying source elements in a source device program; and
 a back end for generating the translation language
10 program having translation elements corresponding to translation of the identified source device program elements, the backend including a graphic user interface, the graphic user interface visually displaying the identified source device program elements aligned with
15 the corresponding translation elements, the graphic user interface having an input unit, the input unit permitting a user to modify the translation elements based on the visual comparison with the aligned source device program elements.
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2. (Previously Amended) The system as recited in claim 1, wherein the source program is for a source device and the translation file is for a disparate target device.
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3. (Previously Amended) The system as recited in claim 1, wherein the source program is a linear assembly

file for a target device and the translation program is a scheduled assembly file for that device.

4. (Previously Canceled)

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5. (Previously Canceled)

6. (Previously Amended) The system as recited in claim 1, wherein the translation program is a context-dependent translation based on static analysis of the source file.

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Please amend Claim 7 as follows.

15 7. (Currently Amended) The system as recited in claim 1, wherein the back end further comprises includes:

a translator for performing a context-dependent translation, the translator comprising having:

20 a translation machine description for mapping source opcodes to target opcodes;

a source machine description containing a description of source opcodes and source operands in a generic representation;

25 a target machine description containing a description of target opcodes and target operands in a generic representation; and

wherein the translator receives a source instruction from said front end, utilizes the translation machine description and source machine description and

target machine description to translate source elements into target elements.

8. (Previously Amended) The system as recited in
5 claim 7, wherein the proper target opcode is chosen from a group of potential target opcodes by comparing the target opcode and target operand with the source opcode and source operand.

10 9. (Previously Amended) The system as recited in claim 7, wherein two or more source opcodes can be combined to a single target opcode when there is a target opcode that represents the two or more source opcodes.

15 10. (Previously Amended) The system as recited in claim 1, wherein the user interface is a display processor.

11. (Previously Amended) The system as recited in
20 claim 10, wherein the graphical user interface displays at least a portion of the source elements in a source window, at least a portion of the translation elements in a translation window, and the source and translation windows are displayed side-by-side.

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12. (Previously Amended) The system as recited in claim 11, wherein corresponding groups of elements of the source and translation programs are aligned in the source and translation windows.

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13. (Previously Amended) The system as recited in claim 11, wherein at least one of the source and translation windows is operable to display a status icon for an element in the window.

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Please amend Claim 14 as follows:

14. (Currently Amended) A method for performing translation of a source program into a translation
10 program, the method comprising:
 receiving a source device program;
 identifying source elements in the source device program;
 generating a translation file having translation
15 elements by performing a context-dependent translation of the source elements;
 displaying the translation elements in a graphic user interface, the graphic user interface aligning the source elements and the translation elements, the aligned
20 elements permitting a visual comparison of related source elements and the corresponding translation elements; and
 in response to user inputs, automatically regenerating selected translation elements based on the user inputs.

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15. (Previously Amended) The method as recited in claim 14, wherein the source program is for a source device and the translation program is for a disparate target device.

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16. (Previously amended) The method as recited in claim 14, wherein the source program is a linear assembly program for a target device and the translation program is a scheduled assembly program for the target device.

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17. (Previously Canceled)

18. (Previously Canceled)

10 19. (Previously Amended) The method as recited in claim 14, further comprising:
performing static analysis of the source elements in the source device program; and
performing context-dependent translation of the
15 source elements based on the static analysis.

Please amend Claim 20 as follows.

20 20. (Currently Amended) The method as recited in claim 14, wherein the step of generating a translation program further comprises:

converting an opcode of a source device program to an opcode of a translation machine program by comparing the source opcode to possible translation opcodes;

25 converting the operand of the source opcode by comparing an operand of the source opcode in a generic expression with a generic expression for a translation operand;

combining the translation opcode and the translation
30 operand to form a translation element.

21. (Previously Amended) The method as recited in claim 20, wherein the step of converting an opcode of the source program further comprises choosing a translation
5 opcode from a group of potential translation opcodes by comparing the translation opcode and translation operand with the related source opcode and source operand.

22. (Previously Amended) The method as recited in
10 claim 20, wherein the step of converting the source opcode further comprises the step of combining two or more source opcodes into a single translation opcode when there is a translation opcode that represents the two or more source opcodes.

15 23. (Previously Amended) The method as recited in claim 14, wherein the graphic user interface includes a display processor.

20 24. (Previously Amended) The method as recited in claim 23, further comprising:
displaying the source elements in a source window;
displaying the translation elements in a translation window; and
25 displaying the source and translation windows side-by-side in the display processor.

25. (Previously Amended) The method as recited in claim 24, further comprising aligning corresponding

groups of elements of the source and translation files in the source and translation windows.

26. (Previously Amended) The method as recited in
5 claim 24, further comprising displaying a status icon for an element in at least one of the source and translation windows.

Please amend Claim 27 as follows.

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27. (Currently Amended) A translation system for translating a source device program into a translation program for a target device, the system comprising:

a computer capable of executing a program_T;

an interactive program for translating code for the source device into code for the target processor and capable of being executed on the computer; and

a graphics interface system displaying source program elements proximate to corresponding translation program elements, the graphics interface unit having a user input device, the user input device permitting correction of the translation program elements by a user as a result of the a visual comparison the source program elements with the corresponding translation program elements.